DOCUMENT RESUME

ED 221 105 HE 015 437

AUTHOR Sollie, Carlton R.; Howell, Frank M.
TITLE The University as a Resource System for Public Needs: Responding to Research Needs of Decision-Makers. Case Studies. Rural Development Series No. 12.
INSTITUTION Southern Rural Development Center, Mississippi State, Miss.
SPONS AGENCY Department of Agriculture, Washington, D.C. Science and Education Administration.
PUB DATE Dec 81
NOTE 46p.
AVAILABLE FROM Southern Rural Development Center, Box 5406, Mississippi State University, Mississippi State, MS 39762 ($2.00).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Case Studies; City Government; *College Role; Community Change; Cooperative Programs; Data Collection; Decision Making; Delivery Systems; *Government School Relationship; Higher Education; Information Utilization; Institutional Cooperation; Interdisciplinary Approach; *Linking Agents; Problem Solving; Program Evaluation; *Research Skills; *School Community Relationship; State Government; Statistical Analysis; *Technical Assistance; Technical Writing
IDENTIFIERS *Public Service

ABSTRACT

The public service role of universities and components of a knowledge transfer model are considered, and two case histories of university response to public client systems are presented. In addition, the community services office is described as one strategy for a university desiring to improve its public service role. It is suggested that the transfer of knowledge in various ways to community decision-makers and other users is a major facet of the public service role of universities. Linkages that connect knowledge producers and knowledge users in mutually beneficial ways and the development of continuing interactions between producers and users are seen as important components of a knowledge transfer model. For the first case study, the client system was a state agency that needed survey research skills and university capabilities including knowledge of basic evaluation research design and methods, design of survey instrumentation, experience in data collection techniques, statistical analysis methods, survey research data processing and computation facilities, technical and policy report writing skills, and a high quality manuscript and printing operation. In the second case study the client system was a small city that needed knowledge and expertise from several disciplines for assistance in problem definition and identification of alternative solutions for community improvement. The two case studies illustrate the ability of a university to respond to different kinds of client system needs. A community service office could serve as a knowledge transfer and service delivery model with two main functions: an in-house information exchanging process within the university, and a linking function. Institutionalization of partnership arrangements is seen as a very important part of the overall process. (SW)

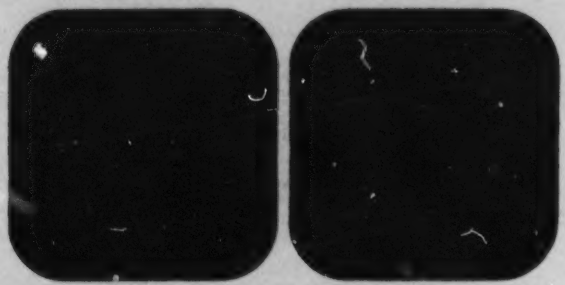
ED221105

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Southern Rural Development Center
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

CASE STUDIES

The University as a Resource System for Public Needs: Responding to Research Needs of Decision-Makers



HE015437

Rural Development Series No. 12
Southern Rural Development Center

This publication represents the research time and resources of Dr. Frank M. Howell, Dr. Carlton R. Sollie and their associates working as members of the Southern Rural Development Center Functional Network on Providing Operational Research for Community Decision Makers. Dr. Sollie, a rural sociologist at Mississippi State University, has served as Center Associate for this network since May 15, 1979. The ultimate objective of the network is to provide materials useful to educators, researchers, action agencies and lay citizens' groups in relation to the subject of university participation in public affairs.

This network is only one of many networks established by the SRDC to inventory the current state of knowledge in high-priority areas of rural development. These networks and individual research projects of the Southern Center are designed to provide information and assistance to extension and research staffs throughout the South as they respond to rural development needs in local communities.

As one of four regional rural development centers in the nation, the SRDC focuses specifically on the rural problems of the Southern region and receives funding through the USDA--Extension Service and Cooperative Research.

The Southern Center is jointly sponsored by Mississippi State and Alcorn State University and provides support staff for capacity building and innovative programming for the experiment stations and extension services of 28 land-grant universities in 13 Southern states and Puerto Rico.

William W. Linder

William W. Linder
Director
Southern Rural Development Center

THE UNIVERSITY AS A RESOURCE SYSTEM FOR PUBLIC NEEDS:

RESPONDING TO RESEARCH NEEDS OF DECISION-MAKERS

Carlton R. Sollie
Center Associate

Frank M. Howell
Post Doctoral Fellow

(Now Assistant Professor of Sociology
at Texas Christian University, Fort Worth, Texas)

Mississippi State University

S R D C F u n c t i o n a l N e t w o r k

Mr. John D. Albritton	of	Mississippi State University
Mr. Tony Byrne		Natchez, Mississippi
Dr. Thomas Handy		Mississippi State University
Dr. Daryl Hobbs		University of Missouri
Dr. Frank M. Howell		Mississippi State University
Mr. Bob W. Pittman		Jackson, Mississippi
Mr. Donald L. Pounders		Mississippi State University
Dr. Carlton R. Sollie		Mississippi State University

This report is the product of an SRDC Functional Network chaired at Mississippi State University. A contractual agreement between the SRDC, the Mississippi Agricultural and Forestry Experiment Station at Mississippi State University, and the Science and Education Administration/Cooperative Research Division of the U.S. Department of Agriculture provided support for this participation and cooperation.

SRDC SYNTHESIS SERIES #12

$2.00

CONTENTS

Foreword i

Chapter 1. UNIVERSITIES AND PUBLIC SERVICE. 1
The transfer of knowledge in various ways to community decision-makers and other users is a major facet of the public service role of universities.

Chapter 2. LINKAGES AND INSTITUTIONALIZATION. 6
Linkages that connect knowledge producers and knowledge users in mutually beneficial ways and development of continuing interactions between producers and users are seen as important components of a knowledge transfer model.

Chapter 3. UNIVERSITY RESPONSE TO PUBLIC CLIENT SYSTEMS:. 11
TWO CASE HISTORIES
Examples of university response to client system needs provide some insight into a proposed model.

Chapter 4. TOWARD A MORE EFFECTIVE COMMUNITY SERVICE. 30
ROLE
The Community Services Office is described as one strategy for a university desiring to improve its public service role.

References 34

Research Projects of the SRDC. 36

Board of Directors 38

Foreword

This is the third in a series of reports dealing with the role of universities in knowledge transfer and public service. The first report (Howell, Pounders, and Sollie, 1980) is a selected bibliography containing some 175 annotated references. The second report (Sollie and Howell) is an overview of issues and problems associated with university involvement in public sector activities and knowledge transfer. It also contains a description of various knowledge transfer models, a suggested composite model (in skeletal form) designed by the authors, and a detailed methodology for assessing university-user knowledge transfer relations.

Included in this third report are two case histories of university-client system interaction. The client system in the first case was a state agency, and in the second case it was a small city. Illustrated in these two case histories is the ability of a university to respond to different kinds of client system needs. In one case the need was very specific; the state agency needed survey research skills and university capabilities including knowledge of basic evaluation research design and methods, design of survey instrumentation, experience in data collection techniques, statistical analysis methods, survey research data processing and computation facilities, technical and policy report writing skills, and a high quality manuscript and printing operation. In the second case the need was more general: the client needed knowledge and expertise from several disciplines for assistance in problem definition and identification of alternative solutions for community improvement.

Descriptions of the two university-client system interactions are based on the authors' participation as faculty members. Evaluations of the two experiences were written from the perspective of the knowledge transfer model described in the second report (also included in this third report in slightly greater detail).

In both of the cases described in this report, the response of the university was to decision-makers who needed the expertise of trained researchers and whose needs did not allow for a lengthy research undertaking.

Chapter I

Universities and Public Service

Henry S. Commager (1965: 79) has stated that the university "is, next to government itself, the chief instrument of social change. It occupies something of a symbolic role of both the church and the state in the Old World, but it fills a role which neither church nor state can effectively fill; it is the source, the inspiration, the powerhouse, and the clearinghouse of new ideas."

The concept of a university as a center for teaching, research, and application came into being with legislation beginning in the 1860's that created the land grant system. This model of knowledge production, transfer, and utilization is viewed as the classic model; but some critics argue that it falls short of the ideal, the ideal model being one in which the university as a resource system for society is able to perform a continuing education and service delivery role in a coherent and effective manner with respect to many and various types of client systems or knowledge users.

The transfer of knowledge, as one component of the service role, has been the subject of much research.* The literature is rich with material pertaining to this subject; but, with a few exceptions, little attention has been given to the question of how a university can organize itself to expand, facilitate and enhance its function as a resource system.

---

*Rural sociologists are leaders in the study of diffusion and adoption of new ideas and recommended practices and technologies. See Sashkin, Morris and Horst, "A Comparison of Social and Organizational Change Models," Psychological Review, 80 (6), 1973, p. 513.

Havelock (1971: 3-10) states that "special sub-systems in the contemporary society specialize in the production, certification, and storage of general knowledge. . . ." These sub-systems usually take the form of university departments, scientific societies, and research institutes. If the university is a bastion for new ideas, it is also a prison consisting of imbedded norms and values designed and maintained to protect the purity of "basic" science. Of course, there are exceptions, and the agricultural-agribusiness-rural life component of land grant institutions is the shining example of these exceptions. Experiment station research, since its beginning more than a century ago, has had a strong "mission" orientation; and the Cooperative Extension Service, since its beginning in 1914, has had a single overriding concern--the transfer of scientific knowledge in various ways to rural and small-town client systems for the purpose of helping those systems improve quality of life.

University response to public needs can be of different forms, but perhaps the most significant is in the area of research, i.e., providing empirical data for decision-makers. Although this kind of service is seen as an essential role of universities, it is unlikely that the full potential of any university as a resource system has been realized.

The question, then, is how can universities become resource systems in the fullest sense of that term? One suggestion, recommended as a partial and long-range answer to the question, is the creation of a new discipline, the "science of knowledge utilization." Institutionalization of this new science, according to Havelock (1971: 1-2), will require "organizational bases, university-linked centers, research and teaching faculties and

department focusing on the study of utilization." Associated with these requirements would be the development of a corps of dissemination and utilization consultants and change agents and the creation and maintenance of communication channels. The time required for this kind of response to the question argues strongly against it as the only effort by a university to expand and strengthen its public service mission. Alternative models that can be more rapidly operationalized must be designed if the university is to achieve a response-to-needs capability that allows it to become "the chief servant of society" not only with respect to the production of knowledge but also with respect to the tranfer of usable knowledge and the delivery of services to those who need them for various purposes, including problem-solving and development planning.

A major question facing those universities interested in enhancing their service role is one of definition--i.e., what activities can be designated as legitimate parts of the public service role? Durward Long (1977: 82), Vice President for Academic Affairs at the University of Hawaii and formerly vice-president for extended academic and public service programs for the University of California system, has offered the following categories of public service activities:

> Dissemination of knowledge beyond the campus.
>
> Delivery of instructional programs beyond the campus.
>
> Applied research for immediate public problems.
>
> Sharing of resources, including facilities and instructional and other learning resources and personnel.

The development of public policy issues and alternatives.

Public participation in cultural, aesthetic, and other university activities.

Community development and community problem solving.

This list encompasses a broad array of different types of activities, at least some of which probably can be found at most universities, particularly land-grant institutions. Since universities can provide a diversity of services, it is frustrating to learn that service-providing models that encompass the total array of services are in the realm of "fugitive" literature, if they exist at all. Associated with this diversity are organizational complexity, disciplinary boundaries, specialization, norms, and educational philosophies that compound the problems of model design. However, a university that is interested in becoming a resource system in the fullest sense of that term can find in the literature certain concepts that can be useful in the model designing process. In addition, knowledge producing, knowledge transmission, and service delivery sub-units of various kinds already exist. Given these sub-units as starting points and utilizing well-developed concepts from the literature, it becomes apparent that some type of knowledge transfer and service delivery coordinating mechanism might be the most appropriate model, that is, one that would allow the university to build on existing strengths.

Continuing philosophical debates about the appropriateness of public service activities by universities notwithstanding (see Birenbaum, 1969), the ways and means of public university response to client systems are becoming an increasingly important concern. A recent review and synthesis of what is called the university knowledge/technology transfer area (Sollie

and Howell, 1981) describes several of the key concepts, existing organizational models facilitating university response, and a needs assessment methodology for monitoring the "university - user partnership" (see Moe, 1978). The following chapter overviews two of these main knowledge-transfer concepts---"linkage" and "institutionalization."

Chapter II

Linkages and Institutionalization

One of the most useful notions in the knowledge-transfer literature is the concept of "linkage." Knowledge-transfer itself implies that clients do not produce all of the requisite knowledge, technology, or information used in their tasks. Moreover, it has been insightful to conceptualize universities and public clientele as comprising two social subsystems: respectively, the knowledge "producer" and "user." The knowledge gap between these two subsystems is the genesis for Moe's suggested partnership, but how can they be related in an organizational sense? Obviously, if knowledge-transfer occurs then it must happen in some manner; but the increased focus on rational accountability-based management plans begs the question of how the process can be monitored, evaluated, and potentially improved.

Havelock (1971: 7-1) has asked a similar question,

> Any detailed consideration of the dissemination and utilization of knowledge must sooner or later focus on the question of linking roles. Who sees to it that knowledge gets to the user. Who is charged with the responsibility of retrieving basic or applied knowledge, deriving practical implications from it, and distributing it to people who need it and can use it?

As social organization at the institutional level, especially involving public agencies, moves toward a more rationally-based accountability model of activity, how academic "goods" make their way into the client sector will become more explicit. That is, the nature of the linkage between the producer and user seems destined to become an ever-increasing and

rationally oriented focus of inquiry. In general, then, the concept "linkage" is the metaphor used loosely to describe the structural features guiding the flow of knowledge from the producer to the user, and possibly the reciprocal feedback of client needs to the producer.

There are typologies which further illuminate structural aspects of linkages. Eaton (1972: 23-4) describes four types of structural linkage patterns:

- o Enabling linkages: with organization and social groups which control the allocation of authority and resources needed by the institution to function.
- o Functional linkages: with those organizations performing functions and services which are complementary in a production sense, which supply the inputs and which use the output of the institution.
- o Normative linkages: with institutions which incorporate norms and values (positive and negative) which are relevant to the doctrine and program of the institution.
- o Diffused linkages: with elements in the society which cannot clearly be identified by membership in formal organization.

There are also "knowledge-linking roles" which further describe the knowledge-transfer process. Included among the nine such roles that Havelock (1971: 7-4) discusses are the following:

- o Conveyer: to transfer knowledge from producers (scientists, experts, scholars, manufacturers) to users (receivers, clients, consumers).
- o Consultant: to assist users in identification of problems and resources, to assist in linkage to appropriate resources; to assist in adaptation to use: facilitator, observer, process analyst.
- o Trainer: to transfer by instilling in the user an understanding of an entire area of knowledge or practice.
- o The User as linker: to link by taking initiative on one's own behalf to seek out scientific knowledge and derive useful learning there from.

Other roles include leader, innovator, defender, knowledge-builder, and practitioner.

As can be readily seen by reviewing these typologies, the concept of "linkage," while useful, is rather complex. In fact, it might seem that this notion is all-consuming and, by self-definition, may not be really useful at all if all knowledge-transfer is reified as "linked." However, in our specific concern with using the concept to illuminate the way in which producers and users related to one another, what is needed is an empirical example of the linkage in a given response to a client system. Two examples are given after a brief discussion of the other principle concept, "institutionalization".

Originating from the work of social scientists on international development (see Eaton, 1972), the process of institutionalization implies a generic effort toward rationally-induced change (Siffin, 1972). In this sense, the focus is on the creation of regular, stable organizational vehicles which promote the adoption of innovations and the utilization of new knowledge. It can be described generally as any form of intentional but "non-coercive social innovation in any sector of society in any culture at any time" (Esman, 1972: 21). Also, institutionalization may involve the creation of new organizational structures or the reconstitution of existing structures as a strategy of directed social change. In effect, this process may "link" producers and users through new systemic channels of one- or two-way communication or alterations to existing ones to incorporate such information flow. Siffin (1972: 51-2) points out some shortcomings to the institutionalized model, however.

A few specific examples of the institutionalization process are informative. These are described by Rodgers and Linder (1980) and by Sollie and Howell (1981).

- PENNTAP: Pennsylvania Technical Assistance Program emphasizes "capacity-building" in local communities for working in rural development, supported by Title V funding. An on-going entity, PENNTAP serves as an institutional linkage between individuals or groups in the public sector and Penn State researchers (or other knowledge-producers). An intermediary, a Community Development Specialist, is an "educator, meeting organizer, a motivator, expert, researcher, objective third party, and a consultant with access to technical information" (Rodgers and Linder, 1980: 8). This PENNTAP staffer provides an institutionalized clearinghouse service to inquiring university client systems.

- CTIP: Community Technology Initiatives Program is in an experimental stage at present but is a rather innovative model of institution-building. Instead of staffers serving a specific university's clientele, CTIP is national in scope, having a set of regional districts and using a "circuit-riding" technology agent. In general, this agent is the linkage between local government, industry and public universities (Rodgers and Linder, 1980).

- CGT: Center for Government Technology is part of the Mississippi Cooperative Extension Service and provides directed training for local government and municipal employees in a wide variety of ways. CGT's strength is in its ability to respond quickly to requests for assistance by utilizing "functional issue area" specialists in conjunction with generalists trained to provide technical assistance (see Rodgers and Linder, 1980: 9)

- STAT: Small Town Action Team is an ad hoc interdisciplinary team which works with a specific community to "stimulate thought, focus attention, create an awareness of issues and opportunities, and make recommendations for action" (Sollie and Howell, 1981). It involves a very intensive "working weekend" concept in which the specially-formed STAT team does an evaluation of the community, emphasizing a physical design approach through the leadership of architects (see American Institute of Architects, 1980). The final product is a rapidly-produced report to community leaders which advises them on specific issues of interest (which served as the genesis of the group originally).

Thus, as a process, the institution-building model is a general concept. Its concrete referents can obviously take on many different forms. In a sense, institutionalization is a formalized arrangement which produces at least a transient "linkage" between the user(s) and producers(s) of knowledge and technology. Moreover, as indicated in the CTIP example, the knowledge-producer does not have to be restricted to the university as we are doing here.

Chapter III

UNIVERSITY RESPONSE TO PUBLIC CLIENT SYSTEMS: TWO CASE HISTORIES OF KNOWLEDGE-TRANSFER INVOLVING "LINKAGE" AND "INSTITUTIONALIZATION"

The involvement of universities in public service activites is rapidly becoming a fact of academic life. Within the tripartite university mission of "teaching, research and services," public accountability fueled by national economic, political, and social woes and needs has placed an increased emphasis on the utilitarian aspects of publically-financed institutions of higher learning. Two case histories of university response to requests for assistance from two different client systems are described in this chapter.

Case History Number 1

In 1978, the Basic Skills Improvement Act was an amendment to the authorization of the Elementary and Secondary Education Act (Title II). This legislation provided a mandate to State Department of Education (referred to as SDEs) to assess needs in basic educational skills throughout the state and report on their current status in a widely-disseminated document. The Basic Skills Division of the Mississippi SDE realized that such a task was too specialized and technical for SDE staffers to undertake, given the federal pressure to produce a high quality document oriented toward both researchers and educational policy-makers. Additionally while they had some funds to underwrite the cost of the needs assessment, these monies were not sufficient to contract with a private, profit-seeking research firm to simply "buy" a solution to the problem.

So, here was a recurrent "knowledge-user" problem. An agency was mandated to perform a task that it had neither the expertise, facilities nor funding to complete. The specific skills and facilities needed were knowledge of basic evaluation research design and methods, design of survey instrumentation, experience in data collection techniques, statistical analysis methods, survey research data processing and computation facilities, technical and policy report-writing skills, and a high quality manuscript production and printing operation. Where could these be obtained?

The SDE had previous agreements with the state's university's educational research unit and attempted to contact this "knowledge production" unit first. However, after only a brief discussion, it became clear that the present undertaking encompassed more effort and a more complicated usage of survey research techniques than this unit could provide.

At this juncture it should be pointed out what was happening from a knowledge-transfer perspective. Here was a client system (i.e., a state agency) with general awareness of their knowledge and technology needs but lacking knowledge about where to go within the university structure for help. Sollie and Howell (1981) term this phenomenon the "cloaking" of knowledge and technology within the complex organization of the university. That is, the user has a rough idea of what s/he needs in the way of knowledge/technology but does not know precisely "where" to locate it in the university setting. Different university units might be able to offer parts of the needed expertise--such as educational research, sociology, business statistics and data processing, marketing--but which might offer the most (or all!)? More importantly, do the clients even have a remote idea as to which ones have anything to offer them at all? What transpired

in this case history illustrates that the "linkage" which existed at this point was more or less a random type of "hit-or-miss" venture by the client. Nonetheless, once the traditional, common sense-oriented snowball procedure located an effective "producer" unit, it became apparent that those needs would continue, and so the institutionalization of this linkage was implemented.

The SDE Basic Skills Coordinator charged with implementing the needs assessment obtained an assessment plan from an eight-county study performed the previous year by a regional education services agency. This coordinator felt that the basic research design and, more importantly, the survey instruments used could be adopted to fulfill the needs of the SDE report. After this good start, the SDE Coordinator still lacked access to the expertise and facilities to get the job done. So, the logical thing to do was to inquire about implementation in the smaller regional study. This inquiry provided the name of this writer who had served as a consultant to the regional needs assessment. From here a direct contact was made by the "user" with the "producer."

What is important to note here is that the linkage process as it occurred in this case depended almost totally on the "user-as-linker" modality. In the field of education and in an administrative policy versus a research position, this client had almost no awareness that sociologists--especially those affiliated with an agricultural experiment station--might have the requisite skill and facilities to assist in the solution to their problem. To reiterate a very important point, the "linkage" here was very uncoordinated and dependent almost entirely upon the chance consulting role

performed by the writer over a year before. The consequence of "missing" this rather tenuous linkage was that the SDE would have to contract with a private firm in Nebraska to do a study of about one-half the magnitude as that eventually performed by the "producer" in the local state university.

In short, what actually transpired between client and producer (i.e., the university response) was a four-month contract negotiated between the SDE and the state university to perform the study. This agreement provided no salary compensation for the principal investigator since this activity was justified as public service. A set of five coordinated surveys--covering public school superintendents, principals, teachers and students--were analyzed using a needs assessment evaluation design. A needs profile of basic educational skills through Mississippi was written for use as a model assessment and in program planning. The principal investigator also provided outside consultants for related training at the SDE. The final report was delivered on schedule with SDE dissemination of 1,000 copies in the first printing and national circulation through the ERIC system (see Howell, 1980). This contract was executed well within the monies available for it at SDE.

It is obvious that knowledge-transfer occurred here and that, by definition, there was a "linkage" between producer and user. The user served in the "user-as-linker" role with what may be called a "functional" linkage (see above).

Given a mutual awareness of SDE's needs on the one hand and rural sociology's capabilities on the other, it also became obvious that a more permanent linkage would prove beneficial to both producer and director. Negotiations between SDE officials and rural sociologists interested in

education recently culminated in an Experiment Station Research Project proposal ("Mississippi Schools, Educational Indicators, and Rural Development") which is being studied. The proposed three-year project would be evaluated by both the university and SDE administrators as to whether or not it should continue. This process insures that accountability of the "institutionalized" linkage is met and that the relationship remains effective. Thus, the institutionalization of what was a transient producer-user linkage represents one of the key mechanisms in the knowledge-transfer process. In this particular case, a longer term relationship appeared to be attractive to both parties although that need not necessarily be the case in general.

DISCUSSION

It seems important to make public universities a "partner" in the solution of knowledge and technology-related problems of their client systems. It has been suggested that in thinking about and, hopefully, acting upon this premise there are at least two key concepts. One is the "linkage" of knowledge producers to users and the complex nature of this relationship. It does not appear that any single organizational model linking the two subsystems would be universally effective. Another concept that follows from this position--that no one knowledge-transfer model is universal--is the idea of "institution-building." Work by social scientists in international development has described the creation of transient formal linkages designed to serve some purpose as long as the need remains. Organizational structures which are relatively ad hoc appear to be a highly promising modus operandi for increasing university relevance to its client systems.

A case history described how an empirical example verifies the utility of these two concepts. The recent experience of this writer served as the basis of a discussion emphasizing the process of knowledge-transfer. This specific example highlights the concept "linkage"--a social scientist performing a nominally-funded, short-term contract for a state agency--and the concept "institutionalization"--the instigation of a three-year research project by sociologists in the State Agricultural Experiment Station to assist the state agency in related research.

A composite knowledge transfer model has been proposed which would function as a general clearinghouse for community service activites of the university (Sollie and Howell, 1981: Chapter 4). The "Community Services Office" would provide both an information exchange within the university--receiving and distributing to various university sub-units information about their knowledge-producing and transfer capabilities and activities--and a linking function between sub-units and community-based client systems. Most of the activities of such an office in the university could be classified as coordinative, facilitative or linking functions. Sollie and Howell (1981) discuss this composite model further.

What should be clear at this point is that since no model appears to be universally effective for coping with the producer-user relationship, university policy-makers should experiment with, or at least consider, several alternative strategies in their institution's response to community service issues. In this section of the chapter, we have tried to emphasize two useful concepts around which such organizational "brain-storming" could revolve.

Case History Number 2

Among the many problems faced by community leaders and decision-makers in contemporary society are anticipating, influencing, and directing change; maintaining and improving economic bases; managing human, physical, informational, and financial resources; and evaluating the results of such activities for purposes of fiscal accountability, project management, and planning for the future. Dealing with these matters is no easy task even in the best circumstances, but in small non-metropolitan communities the difficulties are more acute (Honadle, March 1981: Preface) because they frequently lack the management capacity to serve local residents adequately. Bryce (1979) found in a survey of 522 small cities, one-third of which were classified as non-metropolitan, that the smaller cities' three most common needs were bette. data, more staff, and improved local capacity to conduct required planning. Brown (1980) suggested that efforts to assist rural communities fail to build their capacity to manage effectively or improve their service delivery systems. As Rodgers and Linder (1980) point out:

> Local government leaders in the United States are constantly being called on to make decisions among alternatives for providing services and facilities for their communities. Often these decisions must be made in a relatively short period of time, even though their impact on the communities involved may be long ranging. In the past, these decisions were made all too frequently without sufficient information on the options available to decision-makers and on what their impacts might be.

Faced with the necessity of making decisions that can and often do have long range impacts and more often than not understaffed and lacking adequate data bases for making such decisions, local community leaders need help as they attempt to carry out their responsibilities.

Assistance to Small Towns

Local community leaders are not without recourse. Among the many types of assistance available to local leaders is the Community Technology Initiatives Program (CTIP), an innovative national program designed to provide assistance to local governments with respect to their scientific and technological needs. Emphasizing capability building, CTIP focuses on "a technology transfer system which will bring current information to bear on local problems" (Rodgers and Linder, 1980: 9).

Another kind of resource available to local communities is represented by the Center of Government Technology, located at Mississippi State University. The Center's program includes workshops, seminars, and training sessions for local government officials; the emphasis, therefore, is on capability building.

With a different focus, still another university-based effort to help small towns deal more effectively with some of their problems is a developing program at Mississippi State University. Description of this program, STAT, is the purpose of this report.

STAT

STAT is the acronym for Small Town Action Team. It is patterned after the Regional and Urban Design Assistance Team (RUDAT) sponsored by the American Institute of Architects. The stated objectives of STAT are:

To aid small towns in identifying problems.
To point the way toward solutions to their problems.
To stimulate public awareness and action.

STAT was created by the Center for Small Town Research and the School of Architecture at Mississippi State University. Composition of the Team is not fixed but is interdisciplinary, including both faculty members and students from various disciplines. It also includes representatives of the communities in which it works; STAT, therefore, is a university-client partnership.

With a relatively fixed operational format, a STAT exercise will generally require three days. An overview of the community is conducted on the first day. Included in the overview is a ground and air physical reconnaissance of the community conducted by community representatives. Other activities include interviews with citizens by university members and meetings with community leaders and groups.

Activities of the second day include intensive sessions during which team members discuss the different kinds of information obtained and impressions formed on the first day. Various team members are assigned responsibility for preparation of reports and recommendations.

The first part of the third day is devoted to continuation of the second day's activities, and the final event is a public meeting during which team members present their findings and recommendations. A press conference is part of this final event.

Reports and recommendations of the various team members are published as a composite report in book form and distributed throughout the community.

The STAT exercise in which the writer participated as a representative of sociology was a highly intensified work session which focused on the following community goals:

How to obtain quality low income housing.
How to provide more neighborhood recreational areas, parks, city swimming pool, etc.
How can future growth of the community be encouraged to produce quality neighborhoods and attractive commercial areas?
What specific problems will the community encounter in its expansion toward the lake (a large reservoir only a few miles east of the community's center), the interstate highway on the western edge of the community, the industrial park to the north and to the south?
How to raise the minimum level of what community residents find visually acceptable in their community.
How to replace some of the deteriorated neighborhoods.
How to emphasize or take advantage of existing communities.

The Center for Small Town Research and Design was contacted by the Chamber of Commerce of Lake City (not the real name of the community) for assistance in its efforts to achieve goals stated above. Plans were made by Chamber officials and Center representatives to form a team of university faculty members and community leaders who would be responsible for the on-site activity. University team members were from architecture (specialists in urban design, architectural history, and graphic design), landscape architecture, regional planning, political science, economics (represented by a state agency economist), and sociology. Lake City leaders working with university faculty members as team members were the president of the Chamber of Commerce and the mayor.

Local arrangements were made by the community team members. A small, abandoned hotel in the center of town was made available as headquarters for the team; across the second floor facade of the hotel was a large banner with the letters S. T. A. T. Publicity and announcements through local media explained the purpose of STAT and encouraged citizens to drop by the hotel to chat with team members about Lake City.

When the team members arrived in Lake City Thursday morning, they were divided into two groups, one to participate in a bus-tour of the city and the other to do an air reconnaissance. Upon completion of the ground and air reconnaissances, team members gathered at the hotel, some to be available for chats with citizens who might walk in and others to begin preliminary work on physical design materials. Both aerial and ground level photographs were used in the preparation of reports. Some of the team members strolled through the downtown section, stopping occasionally to talk with shoppers and clerks in stores and shops.

A public meeting, scheduled for Thursday evening, was attended by some 35 to 40 citizens including several leaders--i.e., representatives of various agencies and organizations. At this meeting a number of concerns and interests were expressed, thereby providing team members with some insights into what Lake City residents felt the city ought to be doing. Differences of opinion surfaced during this meeting which, when considered in conjunction with information obtained elsewhere, led to a general recommendation presented during the final open session on Saturday.

Friday's work was a highly intensified experience for the team members. It included lengthy discussion of information obtained during interviews, casual chats with citizens, the air and ground reconnaissances, and the public meeting. Opinions, concerns, and interests expressed by citizens were many and varied, including the following:

"Lake City is a nice place to raise a family."
"We need a cultural center."
"Restrictive zoning keeps out low-income housing."
"Some other towns are getting federal funds, but we're not."
"Racism is the reason the swimming pool has not been built."
"For a small town, Lake City is terrific!"
"We need an overall recreational director for poor black and white kids."

While these discussions were underway some of the team members were hard at work on physical design problems, preparing and organizing materials to be used as bases of recommendations.

The team captain, an architect, assigned responsibilities for preparing written statements for the final report and for presentation during the final open session on Saturday afternoon. Preparation of these reports and of the graphic materials required many hours of intense work, including most of Saturday morning.

Finally, the reports, materials, and recommendations were finished. Citizens met with team members to hear the reports, to raise questions, and to make whatever responses they wished to make.

The Lake City STAT exercise closed officially with adjournment of the Saturday afternoon public meeting and press conference. STAT had completed its on-site work. All that remained to be done was compilation of the several reports into a single document under the editorship of one of the team members. This task became the responsibility of one of the team's architects, and the result was an 83 page booklet.

A "de-briefing" session was held on campus a few days later to evaluate the exercise. Evaluations were mixed, but the general conclusion was that the exercise had been useful.

DISCUSSION

STAT is a university-based knowledge transfer and service delivery organization capable of responding to a variety of public sector needs. As it responds to requests for assistance from the public sector, it links the university with client systems, but linkages may be initiated by STAT.

This review of the Lake City STAT exercise is structured around the main concepts of the University Community Services Office model proposed by Sollie and Howell (1981) in their synthesis and state-of-the-art paper.

First, although organizational details in the University Community Services Office (CSO) have not been completely delineated, STAT closely approximates the organizational structure perceived as the most effective one for a university. STAT has a small permanent staff, functioning primarily as a nucleus. This is seen as appropriate staffing for the CSO because it would primarily serve coordinative, facilitative, and linking functions. STAT differs from the proposed CSO in that it--STAT--is organizationally housed within a university sub-unit while the CSO is viewed as needing a university "home." With proper chartering, however, the CSO probably could function as part of a sub-unit.* The Lake City STAT exercise included members of various academic disciplines who were invited to participate and who did so voluntarily as a matter of professional interest, to gain experience, and for altruistic motives.

To extend university expertise to off-campus clients--i.e., to transfer knowledge and to deliver a service, communication ("knowledge

---

*A possible alternative to a university CSO would be sub-unit CSO's but this arrangement would have some possible disadvantages with respect to coherency of public service activities.

flow," as Havelock calls it) between the university and the client systems must occur. That is, there must be a flow of information, requests from client systems, and responses from the university, or offers of assistance from the university to client systems. University response may take different forms, ranging from simple to complex and including such activities as knowledge transfer by telephone, mailing copies of publications or computer printouts, consultation, workshops, seminars, short courses, institutes, and the like. The Lake City STAT exercise was an on-site workshop consisting of a three-day, highly intensified team effort. In terms of the CSO model, STAT established a linkage with a client system and transferred a "package" of university resources, subject matter knowledge and professional capabilities, to the client system. There was a conjunction of client system need and university response capability, and the exercise demonstrated the viability of the method of responding to the need.

Associated with the notion of linkage establishment in the CSO model is the concept of institutionalization, of developing a partnership arrangement through which the university and client systems interact on a continuing and mutually beneficial basis. Elements of the partnership idea were present in the Lake City STAT exercise; university team members interacted with Lake City residents in problem exploration and definition. However, although STAT is institutionalized as a university-based organization, the Lake City exercise ended with publication and distribution of the final report. The idea of a university-user partnership as defined in the CSO Model, therefore, is lacking.

The following comments pertain the the STAT exercise itself. They are made in light of the fact that the Lake City exercise, while not completely innovative, was the first of its kind in Mississippi.

First, very few citizens responded to the invitation to visit team members at the hotel to talk about their hometown. Not more than a dozen or so individuals came into the lobby and some of these indicated that they "just happened to be walking by and saw your sign." Comments and questions of those who did talk with team members provided some indications of concerns and interests of citizens, and team members strolling through the downtown section and participating in casual conversations gleaned additional insights.

Contacts with citizens, both in the hotel lobby and on the streets, did not produce the desired results. Expectations of team members concerning this phase of STAT were articulated only in general terms, and it seems likely that expectations were unrealistic. Reasons for the limited citizen response are unknown, but ex-post facto speculation revealed several possibilities. First, there is a matter of pre-STAT exercise publicity and promotional work. Use was made of local media for these purposes, but it seems apparent that more was needed. For example, involving representatives of civic and other local organizations in public participation planning might have resulted in more response. Second, the factor of timing might have resulted in more response. Hours of the day and days of the week when downtown traffic is at its peak were unknown, and it is possible that a different time schedule would have produced more citizen response. Third, is the matter of location. Although the hotel, the work site of STAT, is only one-half block off the town square, it had been closed for sometime

and was opened only for use by STAT. If a booth had been set up in the square or on the sidewalk or if team members had been posted in bank lobbies and the post office, response might have been greater.

Second, although STAT was interdisciplinary in composition, there was a heavy emphasis on physical design (five of the ten faculty members were from the school of architecture and one was from landscape architecture). This emphasis is also seen in the final report. Fifteen of the nineteen pages in the Overview Chapter were devoted to landform and townform; the remaining four contained demographic, employment and income information. In the Recommendations Chapter twenty-eight pages were devoted to Public Spaces and six to Public Policies.

It must be pointed out that although the editor of the final report included the materials submitted by the "non-visualist" members of the team, those members did not provide very much material, probably because the amount of time available for on-site data collection was less than satisfactory. Coupled with limited citizen response, the time factor forced the "non-visualists" to deal with a mixture of problem-indicative comments and with impressions.

A third comment pertains to follow-up provisions of the STAT Model. In the interest of establishing and institutionalizing a university-user partnership to provide a basis for continuing interaction between the entities, it is suggested that knowledge transfer and service delivery model designers should give some attention to this comment. There is an inclination among academicians to view their responsibilities as having ended with the preparation of a final report containing a section of

alternative solutions to identified problems. The specifics of implementation of selected alternatives become the responsibilities of local citizens. With respect to some recommendations it is quite possible that local decision-makers need no assistance from university faculty members, but some kind of partnership structure that would include provisions for continuing interaction should be advantageous. For example, one of the recommendations, based on the evidence of some factionalism and divisivess, was that "there needs to be a 'Spirit of Lake City,' a spirit of oneness that permeates the entire social structure, a spirit of togetherness that supersedes fragmentation of interests and factionalism." It was asserted that the 'Spirit of Lake City' could become a rallying slogan or theme that could be translated into action that transforms Lake City into a true community. University personnel--community sociologists, social psychologists, and the like--could assist local leaders in implementing this recommendation.

Summary

In summary, participation in the STAT experience was both rewarding and frustrating. As a knowledge transfer and service providing model, STAT has much to offer to both the university and to existing and potential client systems. Perhaps its main strength is its relatively comprehensive approach in structuring its teams on an interdisciplinary basis. Add to this advantage the fact that team membership is not fixed, that it can vary from one exercise to another; and to interdisciplinary team strength is added flexibility of team composition, of structuring the team in accordance with community goals.

Heavy emphasis on physical design, perhaps, is to be expected in light of the academic "home" of STAT, but there should be no reason why STAT could not vary its emphases.

Another aspect of the STAT model that needs more thought is the time factor. With less than three full days of on-site time, team members must work at a highly intensified pace. Under this kind of pressure it is difficult if not impossible to obtain the kinds of information usually sought in a community study. If provisions could be included for visits to the community prior to the STAT exercise, this difficulty could be partially overcome.

Consideration should be given to procedures that would lead to a partnership type of arrangement between STAT and the communities where it conducts its exercise. Follow-up and continuing evaluation of activities must be viewed as essential elements of a viable university-user partnership.

These two case studies serve as examples of how a university through sub-units of its organization can expedite its response to a client's request for assistance. In both cases the client played an active role; the activities were cooperative endeavors; there was interaction throughout both activities; two-way feedback and consultation were maintained; and there was joint decision-making. They were truly partnership projects.

Described in the following chapter in skeletal form is a knowledge transfer/service providing model based upon the authors' experience, other case studies, and a review of the literature. This model is seen as one strategy for improving a university's response capability.

Chapter IV

Toward a More Effective Community Service Role

With the great array of problems that individuals, agencies, and communities confront, there are many opportunities for universities to expand their service function and, thus, to be more responsive to societal needs. Basically, there are two strategies a university can adopt in order to expand its service function. On the one hand, it can adopt a "more of the same" approach, that is, it can simply encourage its various sub-units to increase their service activities. On the other hand, it can search for innovative arrangements and processes. In another report (Sollie and Howell, 1981), we have offered for consideration a knowledge transfer and service delivery model which we describe as a Community Services Office. It is offered as an innovative model, incorporating concepts found in other models described in the literature on knowledge production, transfer, and utilization.

The Community Services Office is seen at this stage as having two main functions. One of these is an in-house function, an information exchanging process within the university that would include receiving from and distributing to the various university sub-units information about their knowledge production and transfer activities and capabilities. Standardization of the information flow process and development of computerized procedures for information storage and retrieval are seen as facilitative devices for this in-house function.

The second main function of the Community Services Office is a linking function. It is a key element of the model because the development of workable university-user partnership rests upon the successful linking of the two entities. The linking role of the Community Services Office can be operationalized in different ways, but the most effective way would be through the use of a "circuit rider" process similar in operation to the role of the circuit rider in the Community Technology Initiatives Program. The primary responsibility of the circuit rider would be to serve these and existing partnerships. In this sense, the role of the circuit rider is similar to that of the Community Development Specialist role in Pennsylvania State University's Title V program (PENNTAP).

Institutionalization of partnership arrangements is seen as a very important part of the overall process. This observation is based on Moe's (1978) definition of a problem, "the great need of users. . .for new ideas about problems and about what might be done," and "the high promise of university research, education, and public service to produce and help put to use new ideas and alternative ways of dealing with problems." Moe states that "both groups are frustrated and searching for a better relationship," and that "what is needed is a new partnership between users and researchers."

The partnership arrangement should involve users and potential users of new ideas with researchers in identifying issues and problems and in defining problems to be researched or to be dealt with through the application of existing knowledge. Continuing user-research contact throughout a research process would be a basic strategy to improve communication and to facilitate improvements in programs and services.

A university interested in moving toward a more responsive position with respect to societal problems and needs would be well advised to consider the Community Services Office and the functions described below. A relevant strategy for a university with this interest would include the following set of activities (Moe, 1978: 25).

> Building on and strengthening established department, research unit, user contacts. This would obviously include an analysis of what contacts already exist and what new ones are needed to enable faculty members to be more effective in putting knowledge to work.*
>
> Interpreting to users and the public the university's research role and function.
>
> Interpreting existing bodies of knowledge as they relate to issues, problems and alternatives of major interest to users.
>
> Helping identify development and policy issues from the user point of view involving researchers, research administrators, department heads, and other college or university administrators.
>
> Bringing user groups of all types to the campus to meet with researchers and administrators; to help clarify which need to be researched; and to make possible direct researcher-user exchanges on the meaning and limitation of findings, implications of findings, and on the possible/probable impact of alternatives.
>
> Helping define user needs for continuing communication and how various media might be used to get findings to users.
>
> Helping utilize the instrumentality of social science research centers and bureaus of applied research as mechanisms through which the university could contribute both to an understanding of and solution to social problems.
>
> Helping arrange new types of liason between universities, departments, and research units, and a variety of significant user groups. Some consideration might be given to setting up new types of joint university-user advisory and technical groups and having persons from user groups in liason capacity on campus for extended periods of time.

---

*A report prepared by the Center for Public Affairs of Virginia Commonwealth University for the VCU President's Task Force on Community Relations (published in January, 1981) is a good example of how a university can inventory the kinds of faculty expertise and university facilities are being used or could be used.

Benefits accruing from the operation of the Community Services Office cannot be specified at this point, but partnership arrangements should produce benefits for both parties. Included among the probable benefits are:

Researchers and users could be linked more effectively.
Such research findings as presently exist could be put to use.
Research could come to grips with some of the more basic issue in contemporary society and particularly with aspects of the problems important to significant users.
It is very likely that a wider support base could be built both in understanding and public support.
Department and universities could gain in that they might be seen as a more effective partner with communities, counties, the state, and the nation in improving the well-being of people.
This phrase, the well-being of people, is a significant end and the hallmark of what universities are about.

REFERENCES

Birenbaum, W. H.
1969 Overlive: Power, Poverty, and the University. New York: Delcorte Press.

Brown, Anthony
1980 "Technical Assistance to Rural Communities: Stopgap or Capacity Building?" Public Administration Review, 40(1): 18-23.

Bryce, Herrington J.
1979 Planning Smaller Cities. Lexington, Mass.: Lexington Books.

Commager, Henry S.
1965 "The University and the Community of Learning," in Benne, K. D., Morris, Sir Charles, and Commager, H. S., The University in the American Future. Lexington, KY: University of Kentucky Press.

Eaton, J. W. (ed.)
1972 Institution Building and Development: From Concept to Action. Beverly Hills, California: Sage.

Esman, M. J.
1972 "The Elements of Institution Building," Pp. 19-39 in J. W. Eaton (ed.), Institution Building and Development: From Concept to Action. Beverly Hills, California: Sage.

Havelock, Ronald G.
1971 Planning for Innovation. Ann Arbor, MI: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, The University of Michigan.

Honadle, Beth Walter
1981 Capacity-Building (Management Improvement) for Local Governments: An Annotated Bibliography. Rural Development Research Report No. 28, Washington, D. C. USDA, Economics and Statistics Service.

Howell, Frank M., Donald Pounders, and Carlton R. Sollie
1980 University Knowledge/Technology Transfer and Public Decision-Making. Southern Rural Development Center, Mississippi State, Rural Development Bibliography Series No. 11.

Long, Durward
1977 "The University as Commons: A View from the Administration," New Directions in Higher Education. 18(2): 75-86.

Moe, E. O.
1978 "Universities and Users of Research: A Developing Partnership." Rural Development Research and Education 3(2): 24-5.

Rodgers, P. and W. W. Linder
1980 "Providing Operational Research to Community Decision-Makers," Paper presented at the annual meeting of The Rural Sociology Section, Southern Association of Agricultural Scientists, Hot Springs, Arkansas, February.

Siffin, W. J.
1972 "Institution Building as Vision and Venture," Pp. 41-64 in J. W. Eaton (ed.), Institution Building and Development: From Concept to Application. Beverly Hills, California: Sage.

Sollie, C. R. and F. M. Howell
1981 University Knowledge/Technology Transfer and Public Decision-Making: Review, Synthesis, and Alternative Models. Southern Rural Development Synthesis Paper Series, Mississippi State University (forthcoming).

RESEARCH PROJECTS OF
THE SOUTHERN RURAL DEVELOPMENT CENTER
1975 to Present

Project	Research Associate	Status
A Synthesis of Evaluative Research Literature for Rural Development	Dr. Arthur G. Cosby Texas A & M University	Completed
Citizen Participation in Rural Development Concepts, Principles and Resource Materials	Dr. Donald E. Voth Mr. William Bonner University of Arkansas	Completed
Inventory and Appraisal of Research Concepts, Methods and Results in Land Use Issues	Dr. Burl F. Long Virginia Polytechnic Institute and State University	Completed
Synthesis of Research Results Relevant to the Impact of Governmental Transfer Payments on Human Resource Development.	Dr. E. Evan Brown University of Georgia	Completed
Solid Waste Disposal and Financing	Dr. Michael S. Salkin Oklahoma State University	Completed
Health Care and Rural Development	Dr. R. David Mustian North Carolina State University	Completed
Housing Research Relevant to Rural Development	Dr. Savannah Day Florida State University	Completed
Industrialization of Rural Areas	Dr. Eldon D. Smith University of Kentucky	Completed
A Review and Synthesis of Research Relevant to Small Farm Operation	Dr. W. Arden Colette University of Florida	Completed
Educational Needs Projection and Rural Development	Dr. Gerald C. Wheelock Alabama A & M University	Completed
Development and Testing of a Working Model for Transfer of Computer Technology to County Officials	Dr. Gerald A. Doeksen Oklahoma State University	In Progress
Effect of Taxation and Financial Management Policies on the Delivery of Community Services in Rural Areas of the States	Ms. Pamela H. Rodgers Southern Rural Development Center	In Progress

Development and Testing of an Innovative Model for Providing Operational Research to Community Decision Makers and Other Users	Dr. Carlton R. Sollie Mississippi State University	In Progress
Community Services and Facilities Research Needs	Dr. William W. Linder Southern Rural Development Center	In Progress
The Impact of Banking Deregulation on Southern Rural Communities	Dr. James C. Nyankori Clemson University	In Progress
Estimating the Effects of Community Resource Development Upon County Quality of Life	Dr. Donald E. Voth University of Arkansas	In Progress
Rural Crime in Florida: A Victimization Study of the Nonfarm Population	Dr. Keith Carter Dr. Lionel Beaulieu University of Florida	In Progress
Use-Value Appraisal of Agricultural Lands in the South: Policies and Problems	Ms. Pamela H. Rodgers Southern Rural Development Center	In Progress
The Development of a Southern Regional Research Data Base: Model for Action	Dr. William W. Linder Southern Rural Development Center	In Progress
The Effect of High Interest Rates in the Municipal Bond Market on Community Services and Facilities	Ms. Gerry H. Williams Southern Rural Development Center	In Progress
The Impact of Population and Economic Growth on the Demand for and Cost of Public Education in Rural Areas	Dr. Brady J. Deaton Virginia Polytechnic Institute and State University	In Progress
Regional and Community Water Policy Issues in the Southern Region	Dr. Roy Carriker University of Florida	In Progress
Rural Roads and Bridges: Issues and Alternatives	Dr. William W. Linder Southern Rural Development Center	In Progress

BOARD OF DIRECTORS

Dr. D. M. Briggs
Assistant Director
Agricultural Experiment Station
University of Arkansas
Fayetteville, AR 27201

Mr. William H. Cranford
Director, Agricultural Development
Central Power and Light Company
P. O. Box 2121
Corpus Christi, TX 78403

Dr. James I. Dawson
Associate Dean for Extension
Alabama A & M University
P. O. Box 53
Normal, AL 35762

Dr. Talmadge DuVall
Director
Cooperative Extension Service
University of Georgia
Athens, GA 30601

Dr. Rodney Foil
Director
Mississippi Agricultural and
Forestry Experiment Station
Mississippi State, MS 39762

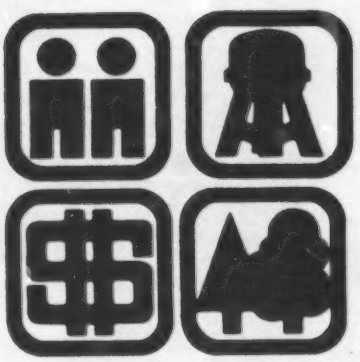
Dr. B. D. Mayberry
Dean
School of Applied Sciences
Tuskegee Institute
Tuskegee Institute, AL 36088

Dr. Daniel Pfannstiel
Director
Cooperative Extension Service
Texas A & M University
College Station, TX 77843

Dr. A. W. Snell
Associate Director
Agricultural Experiment Station
204 Barre Hall
Clemson University
Clemson, SC 29631

Dr. Michael Sprott
Director
Cooperative Extension Service
Auburn University
Auburn, AL 36830

The SRDC is one of four regional rural development centers in the nation. It coordinates cooperation between the Research (Experiment Station) and Extension (Cooperative Extension Service) staffs at land-grant institutions in the South to provide technical consultation, research, training, and evaluation services for rural development. This publication is one of several published by the Center on various needs, program thrusts, and research efforts in rural development. For more information about SRDC activities and publications, write to the Director.



Southern Rural Development Center
Box 5406
Mississippi State, MS 39762

The Southern Rural Development Center is an Equal Opportunity Organization providing research, educational information, and other services only to individuals and institutions that function without regard to race, color, sex or national origin. SRDC is an Equal Opportunity Employer.